

CLAIMS

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1. A method for allocating a radio resource in a packet switched data transmission system, which data transmission system comprises terminals and a network, and in which method:
 - 5 terminals communicate with the network over a radio interface by using packet transfer mode;
 - 10 for communication, a radio resource is allocated to the terminal;
 - for allocating the radio resource, the terminal sends to the network a message;
 - 15 for allocating the radio resource for the packet switched implementation of a realtime service, a first message is sent from the terminal to the network; said first message is received in the network;
 - the network identifies said first message as a radio resource request for the packet switched implementation of a realtime service, and
 - 20 the network allocates to the terminal the requested radio resource for the packet switched implementation of the realtime service.
 2. A method according to claim 1, wherein said radio resource allocation comprises:
 - 25 establishing an open ended TBF (Temporary block flow) connection between the terminal and the network;
 - setting the unacknowledged mode as the RLC (radio link control) mode of said TBF connection.
 3. A method according to claim 1, wherein further in the method for allocating a radio resource for the packet switched transmission of a non-realtime service, a specific third message is sent from the terminal to the network.
 - 30 4. A method according to claim 1, wherein said first message comprises a bit pattern through which the network identifies it as a radio resource request for the packet switched implementation of a realtime service.
 - 35 5. A method according to claim 1, wherein it is a 1-phase method, whereupon only one message is sent from the terminal to the network for allocating a radio resource for the packet switched implementation of a realtime service, which message is said first message and in response to the reception of said message, the network will allocate to the terminal the requested radio resource for the packet switched implementation of the realtime service.

6. A method according to claim 1, wherein said first message is a packet channel request of the GPRS system.

7. A method according to claims 1 and 6, wherein said packet channel request is:

5 8 bits long and the message comprises for identification a bit pattern 01101;

11 bits long and the message comprises for identification a bit pattern 110101.

10 8. A method according to claim 1, wherein, as an indication of the radio resource allocation, the network sends the terminal a packet uplink assignment message.

15 9. A method according to claim 1, wherein in the method, two messages are transmitted from the terminal to the network, the method thus being 2-phased, in which method:

20 prior to the transmission of said first message, the terminal sends the network a specific second message, which second message is a request for allocating a radio resource for the transmission of said first message;

25 said second message is received in the network;

the network allocates to the terminal the requested resources for the transmission of said first message;

for allocating the radio resources for the packet switched implementation of a realtime service, said first message is sent from the terminal to the network;

25 said first message is received in the network;

the network identifies said first message as a radio resource request for the packet switched implementation of a realtime service;

and

30 the network allocates to the terminal the requested radio resource for the packet switched implementation of the realtime service.

35 10. A method according to claim 9, wherein said second message is a packet channel request of the GPRS system and said first message is a packet resource request of the GPRS system.

40 11. A method according to claim 10, wherein the packet resource request comprises a specific, at least one bit long bit field through which the network identifies it as a radio resource request for the packet switched implementation of a realtime service.

12. A method according to claim 11, wherein said bit field is one bit long, whereupon if the value of the bit in the bit field is:
5 a specific first value, the network will interpret said first message to be a request for allocating a radio resource for the packet switched implementation of a realtime service;
 a specific second value, the network will interpret said first message to be a request for allocating a radio resource for the packet switched implementation of a non-realtime service.
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claim 1
13. A method according to ~~any one of the preceding claims~~, wherein by a realtime service is meant one of the following: transmission of speech, transmission of a video image.
- 15 14. A method according to claim 1, wherein said radio resource allocation is implemented on the RLC/MAC (radio link control/medium access control) layer of the GPRS system.
- 20 15. A terminal (MS) that comprises means (MPU, MEM, RF, AER) for packet switched communication with a network over a radio interface the terminal comprising:
 means (MPU, MEM, RF, AER) for generating and transmitting a first message to the network for allocating a radio resource for the packet switched implementation of a realtime service, which message comprises specific information for identifying the message in the network as a radio resource request for the packet switched implementation of a realtime service.
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30 16. A terminal according to claim 15, wherein said terminal is one of the following: a mobile terminal of a cellular network, a computer terminal that communicates through a mobile terminal of a cellular network.
- 35 17. A network element (BSS, BSC, BTS, SGSN) that comprises means for packet switched communication with a terminal over the radio interface, the network element comprising:
 means (BTS, ANT, PCU) for receiving a message arriving from the terminal and for identifying it as a radio resource request for the packet switched implementation of a realtime service;
 means (PCU) for allocating a radio resource to the terminal for the packet switched implementation of a realtime service.